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Applications of Kinneavy's *Theory of Discourse* to Technical Writing

A GREAT DEAL of what is written and said about technical writing is evangelical rather than analytic, and the evangelical approach does not provide technical writing instructors with much beyond moral support. As Professor Dwight Stevenson recently observed, "surprisingly little work has been done to develop a valid rhetoric of scientific and technical communication."¹ Professor Stevenson doubts that traditional rhetorical theory will help, and thinks, rather, that a valid rhetoric of scientific and technical communication can be developed only inductively, by "researchers who go into the places where . . . scientific and technical communication are being carried out" (p. 9).

I anticipate with interest the development of the rhetoric that Professor Stevenson is talking about. But I suspect that an inductive rhetoric of scientific and technical communication will also be comprehensible in terms of an inductive theory of discourse that takes traditional rhetoric into account. Moreover, I wonder just how useful such a rhetoric of scientific and technical communication will be in teaching technical writing to students who are not headed professionally for those places where scientific and technical communication are carried out. Students at many colleges and universities in basic courses called "Technical Writing" are, in fact, in a wide variety of disciplines: business, communications, pre-law, architecture, government, the social sciences. We might well look to existing discourse theory for useful analytic approaches to technical writing courses in which students from such disparate disciplines are enrolled. In particular, Professor James Kinneavy's *Theory of Discourse* seems to me to provide useful ways of thinking about a number of problems of such a course.

To begin with, there is the problem of defining "technical writing." The commonest traditional definition seems to me inadequate—not only on practical grounds for the kind of course I am talking about, but also on theoretical grounds.² Techni-

¹"Toward a Rhetoric of Scientific and Technical Discourse," *The Technical Writing Teacher*, 5 (Fall, 1977), p. 4.

²John S. Harris shares my concern for the practical inadequacy of a definition in terms of specific content, in his "On Expanding the Definition of Technical Writing," presented at the Modern Language Association Convention, December 28, 1976, in Chicago. His solution to the problem, however, is quite different.

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cal writing is usually defined as "writing about scientific subjects and about various technical subjects associated with the sciences." I quote here from Mills and Walter, who do, however, admit the difficulty of further defining a "technical subject."³ Such a definition of technical writing in terms of the specific subject areas of its content is, practically speaking, too restrictive for our students' range of professional fields. While the definition is too restrictive in one way—about the fields of content in technical writing—in another way—about matters of purpose, logic, organization, and style in technical writing—it is not restrictive enough. Suppose that I discuss with my class the organization of an article in a "technical" journal, which begins by stating a hypothesis and proceeds to introduce evidence and argument to demonstrate it. How can I, in my own mind, distinguish between that article, as a piece of writing, and a literary article I am writing at the same time, demonstrating the hypothesis that George Moore's quarrel with Yeats was responsible for the peculiar shape of Moore's Irish autobiography? What can I say in general about the purpose, organization, logic, and style of the first article that will not also be true of the second? And yet the first, according to the definition of technical writing in terms of its specific subject matter, is "technical writing;" the second is not. The definition in terms of specific subject area distinguishes the one article from the other, but not on the bases that are my interest in the course: matters of writing. One unfortunate secondary effect of defining technical writing in terms of specific subjects is, I think, to make new instructors feel that they ought to know more about the sciences, and not that they ought to know more about varieties of discourse.

Several other definitions of technical writing have been offered: a linguistic definition, which describes technical writing mainly in terms of its style; a definition in terms of logic; and a definition in terms of purpose broadly conceived, which describes technical writing as "functional" writing.⁴ Each of these is helpful, inasmuch as each focuses on a problem of writing, but each is partial. Defining discourse in terms of its logic alone will not distinguish the kind of article I have already mentioned—the scholarly article that demonstrates a hypothesis—from, say, a sermon that employs a similar logical pattern. And yet, the two pieces of writing differ in style and in purpose. Any piece of writing is a totality, of which style and logic are but two characteristics. No definition in terms of one single characteristic will be adequate, unless that characteristic somehow determines the others. Defining technical writing as "functional" writing is more interesting theoretically, because "function" seems almost fundamental enough to determine logic and style. But, after all, there are several possible kinds of function. My literary article functions, as a piece of discourse, to inform my colleagues of my hypothesis. An advertisement functions to persuade me to buy Schlitz instead of Budweiser—or vice versa. To define technical writing simply as functional writing is still inadequate. The more one looks at

³Gordon H. Mills and John A. Walter, *Technical Writing*, 4th ed. (New York: Holt, 1978), pp. 4, 3.

⁴These definitions, respectively, are illustrated by the following: Robert Hays, "What Is Technical Writing?" *Word Study* 37 (April, 1961); A. J. Kirkman, "The Communication of Technical Thought," in *The Engineer and Society*, E. G. Semler, ed., (London: Institute of Mechanical Engineers, 1970), pp. 180-185; and Reginald O. Kapp, *The Presentation of Technical Information* (New York: Macmillan, 1957), chapters 1 and 2. All three of these works are cited by W. Earl Britton, who provides a useful review of attempts at definition in "What Is Technical Writing?" *College Composition and Communication*, 16 (May, 1965), pp. 1-4.

the problem of defining a variety of writing, the more it seems to demand comprehensive terms.

Professor Kinneavy's *Theory of Discourse* provides those terms. I would propose defining technical writing, to follow Kinneavy's model, as mainly *reference discourse*—discourse the primary purpose of which is to represent reality (which is assumed, without proof, to pre-exist outside the writer or speaker). Kinneavy distinguishes four varieties of discourse on the basis of their primary aims. Any act of discourse involves four basic components, "a person who encodes a message, . . . the reality to which the message refers," a person who decodes the message, and "the signal (language) which carries the message," and which unites the other three components of the process.⁵ (See figure p. 628) The varieties of discourse can be described according to which of the components they emphasize: *expressive* discourse aims primarily to express thoughts, feelings, or beliefs of the encoder, or of a social group which he or she represents; *referential* discourse aims primarily to refer to some reality assumed to pre-exist outside the writer or speaker; *literary* discourse aims primarily to attract attention to itself as artifact; and *persuasive* discourse aims primarily "to elicit from . . . [the reader or listener] a specific action or emotion or conviction" (p. 211). Of course, although each variety of discourse emphasizes one aim, other aims are not necessarily excluded. In certain kinds of technical writing overlapping aims become very important, as I shall discuss in a moment. The differing aim of each variety of discourse requires of it characteristic forms of organization, logic, and style, so that if we say that most technical writing is referential discourse (and some is persuasive), we are not merely substituting unfamiliar terms for familiar ones. We are beginning to explain why technical writing, at its best, exhibits particular organizational, logical, and stylistic patterns.

In addition to distinguishing four varieties of discourse by their aims, Kinneavy also distinguishes four modes of discourse—independent of aim—by their approach to reality: *description*, *narration*, *classification*, and *evaluation*. Many technical writing courses are already organized loosely around a theory of modes, in which narration is called description of process, and an important exercise in classification is definition. Of course, modes, like aims, may be mixed, and long forms such as reports or journal articles can sometimes be seen as composites of modes.

Technical writing defined as referential discourse, that is, writing that aims primarily to represent reality, includes most of the professional writing of all of the students in my "Technical Writing" courses, regardless of their specific fields. The writing which is excluded by that definition, but which is also the legitimate concern of introductory courses in Technical Writing, includes business letters and the kind of reports that Mills and Walter call "recommendation reports," that is to say, forms of writing which aim to be strongly persuasive by their particular representations of reality. Defining such writing as persuasive-referential draws attention to its overlapping aims. Thus, with Professor Kinneavy's model, I can distinguish for my students between the kinds of writing they may have been concerned with in other English courses, and the kinds of writing they will be concerned with in technical writing.

Because Kinneavy's theory offers a satisfactory definition of technical writing, as

⁵James L. Kinneavy, *A Theory of Discourse* (Englewood Cliffs, N.J.: Prentice-Hall, 1971), p. 19.

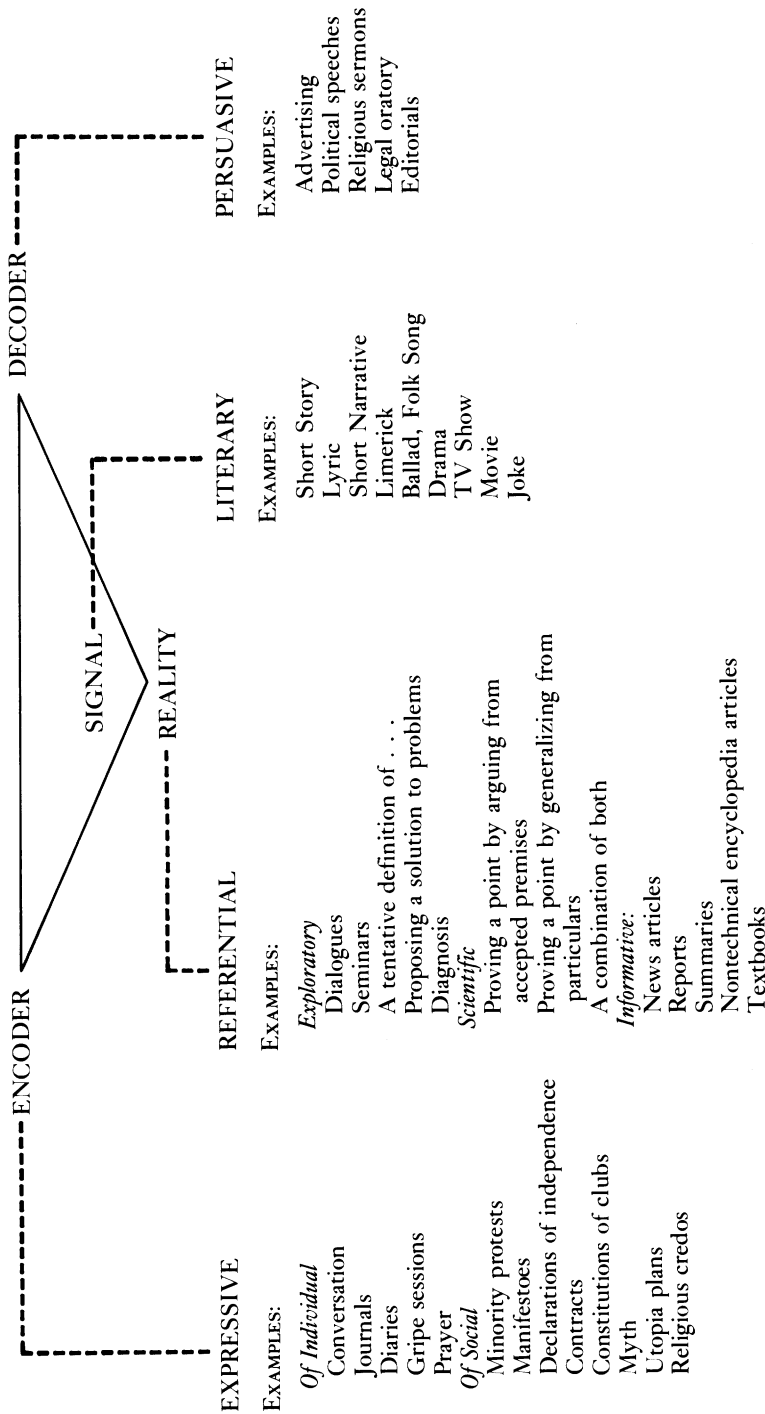


Figure from Kinneavy, *The Aims of Discourse*, p. 61.
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writing, it also offers a great many useful ways in which to analyze the subject: to construct a basic course and to provide in it the kind of intellectual depth that writing courses so often lack. In constructing a basic course around the usual theory of modes, one problem we encounter is where to deal with matters which do not fit neatly into a theory of modes—matters such as long reports, papers for professional journals, and letters. We usually end up sticking these kinds of writing tasks into the syllabus at the beginning or the end or wherever seems most practical. Our course structure says that the “real course” is the study of the modes, and reduces these other topics to also-rans. But, in fact, we know that many of these other topics are very important—for example, organization of the long report may be one of the more important topics in the course. Moreover, what do we say to students about the relation of these other forms to the modal writing in the course? We can, as I said earlier, talk about longer forms—for example, the report and the professional paper—as composites of modes, but many other things, as well, need to be said about organizing longer forms. On what principle do we make the composite? Where, for instance, in a course structured around the theory of modes alone, do we talk about the classic organization and logic of writing to demonstrate a hypothesis?

Kinneavy's theory provides some larger structures that offer solutions of these problems. Let me return for a moment to his model. Kinneavy distinguishes three types of referential writing on the basis of their characteristic organization, logic, and style: *exploratory*, *informative*, and “*scientific*” discourse. (I put the last term in quotation marks to indicate that it is used here in a special sense, and that it does not mean merely discourse in the sciences.) *Exploratory* discourse, Kinneavy says, may be thought of as asking a question. Two of his examples of exploratory discourse are proposals and tentative definitions; to these I would add articles or reports organized so that they begin with questions and proceed to conclusions which they emphasize as tentative. *Informative* discourse may be thought of as providing an answer to an implicit question (p. 39). Examples of informative discourse are textbooks, instructions, and certain kinds of articles and reports. “*Scientific*” discourse, according to Kinneavy, offers proof of a hypothesis, which itself may be considered as the answer to an implicit question. Examples of “*scientific*” discourse are articles and reports—whatever their specific subject matter—that attempt to demonstrate the validity of a hypothesis, either deductively, by argument from established principles, or inductively, by generalization from evidence.

At present, I am organizing my own introductory technical writing course into units on Informative, Exploratory, and “Scientific” Writing, and a unit on Persuasive-Referential writing. Because I am using a text which employs a modal theory, I can then introduce the modes in the first unit, informative writing, and subsequently discuss how they appear differently in exploratory, “scientific,” and persuasive-referential writing. (Because informative writing is the largest unit in my course, I treat it first, even though in Kinneavy's conception exploratory writing—which asks questions—is logically prior to informative writing—which gives answers.) Description, for example, will be organized differently, may employ a different logic, and may be written in a different style, depending on whether it is description to inform, explore, demonstrate, or persuade by its representation of reality. After all, what is a letter of application for a job but a piece of writing that aims to persuade by the way it represents reality and that pursues this aim in the

descriptive or narrative mode? There is no need to crank mechanically through a discussion of each of the modes in each unit—one has then only to talk about relevant differences.

In a technical writing course constructed as I have described, the organization of longer forms can also be discussed in each unit. A strictly informative report will be organized differently from one which explores some question, from one which attempts to demonstrate some hypothesis, and from one which attempts to persuade its readers to accept its recommendation. The latter—the recommendation report—may be organized either as exploratory or “scientific” discourse, depending on which seems more persuasive for the actual situation. In all of these ways, Kinneavy’s theory helps me order my syllabus rationally and helps me explain the relation of different types of writing, and of different assignments in the course, to each other.

Kinneavy’s theory also helps provide the intellectual depth that many writing courses lack. This, I think, is the most important contribution that any rhetorical or discourse theory can make to teaching writing. We are apt to teach writing simply as a long list of prescriptions and proscriptions. Perhaps because most of us are educated as literary scholars and become writing instructors because we are good writers or interested in writing, we are often able to explain only in limited ways why things should be done in writing as we think they should. But instruction presented this way to adults, relatively non-analytically, is difficult to remember or retain, let alone to use in complex situations. And it is boring. Writing courses taught this way become for students exercises in doing things “right” for the instructor, instead of explorations of the powers of language and intellect that develop the student’s independence in making decisions about writing. What I have said already about structuring a basic technical writing course gives some examples of how theory can provide analytic depth. Before introducing some further examples, I must return briefly to Kinneavy’s theory.

In discussing informative writing, Kinneavy observes that information is conveyed in three ways: syntactically (by structures), semantically (by the meanings of words), and pragmatically (in real, not ideal, situations) (pp. 90-96). The concept of syntactical information is very useful in talking to students about the formats that are traditionally important in technical writing courses, and actually important in professional writing. Instead of having to say to students that we write laboratory reports or business letters in a certain format “because that is the way it is done,” we can talk about the information that those formats—considered as syntactical structures—convey. Instead of reducing formats to the requirements of a mindless dogmatism, we identify them as creators of certain expectations in the reader and as carriers of certain information about the writer and his or her intentions for a given piece of writing.

The concepts of semantic and pragmatic informativeness are also useful for the perspectives they provide on a question central to technical writing—the question of audience. As Kinneavy observes, two conditions that a statement must fulfill to be semantically informative are that it must exist in sufficient context to be meaningful, and it must have surprise value—that is, not be self-evident (p. 93). And since, pragmatically, as Kinneavy says, information is only information *to* somebody, what is information to one audience is not information to another, either because they

cannot understand it—that is, they do not have sufficient context for it—or because they know it already and it has no surprise value. This last concept of surprise value adds something important to technical writing's traditional perspective on audience.⁶ Technical writing has tended to be preoccupied with writing to the uninformed reader. But we know that professionals often write for their peers, and that students often write for readers who know far more about the subject of their writing than the students do. This preoccupation with writing for the uninformed reader is a salutary antidote to professional and bureaucratic gobbledegook. But to make writing for the uninformed reader into dogma is to oversimplify and falsify the analysis of audience. What we want students to do is not just to write well for some ideally-imagined uninformed audience, but to gauge as intelligently as they can in every case the degree of their audience's information, and to write to that audience. The concept of surprise value provides one more term with which to analyze that audience.

The detail in which we can analyze students' writing problems and relate them to the aims of their writing may well determine the degree to which we render memorable what we have to say about writing. One of my students wrote the following sentence: "Architecture is a consideration in the construction of underground dwellings." I might have commented in the margin, "solecism," if I had not been thinking carefully about *my* audience; or, if I had been just a little wider awake, I might have written, "Isn't architecture a consideration in the construction of any building?" The student would have gotten the point from my second alternative, but I would still not have referred his mistake to any general concept which would help him avoid making a similar one in the future. When, however, I designate his statement as "non-information, for this audience," I have referred him to the general concept of what constitutes information. My first alternative—calling his mistake a "solecism"—is dogmatic, and my second—asking whether architecture is not a consideration in the construction of any building—advertises my own perspicuity as a reader. But my third alternative places the error in the analytic construct of the course.

There are many other ways in which Kinneavy's theory can provide analytic depth in a technical writing course, but I will briefly indicate only a few more. His description of the components of exploratory discourse (beginning with anomalies in evidence that current knowledge cannot account for, proceeding to the imposition and testing of a new model, and concluding with a new hypothesis) is useful in organizing some interpretations of evidence (pp. 99-104). His analysis of the differing logic of exploratory and scientific discourse, while too detailed for an introductory course, can provide some interesting insights beyond the usual remarks on inductive and deductive reasoning, which—as many students recognize—do not describe all of the logical processes that their writing requires of them.

Kinneavy's analysis of semantic components of style in informative, exploratory, and "scientific" discourse is also helpful. We are accustomed to saying, for example, that the language of technical writing is usually literal. Using Kinneavy's model, we can explain that literalness by referring to the primary aim of most technical

⁶Cf. Mills and Walter: "Always have in mind a specific reader . . . and always assume that this reader is intelligent but uninformed," p. 16.

writing—to represent reality. But Kinneavy also focuses our attention on the exceptions—such as uses of similes, analogies, and models in all referential writing, and uses of paradox in exploratory writing. With similes and analogies we represent the unknown in terms of the known. And, as Kinneavy says, “Galileo’s ‘Nonetheless it moves’ is classic . . .” (p. 189). Paradox expresses the confrontation between anomalous evidence and accepted belief that is characteristic of exploratory discourse. We are accustomed to speak of the inappropriateness of humor in technical writing, but, as Kinneavy says, humor may be an important ingredient in exploratory discourse. “It may remove in a flash entire commitments which are hindering true exploration” (p. 189). Discussing stylistic conventions in terms of aims also provides us with terms to talk about making actual stylistic choices. Instead of asking, “Is this a legitimate use of the passive voice?,” we can teach the student to ask, “Does this use of the passive voice help me to represent more exactly and clearly the aspect of reality I want to represent?” Rephrasing the question doesn’t make the answer self-evident, but it does make the grounds of choice clear.

There is room for more detailed and systematic work than I have attempted here in using Kinneavy’s theory to teach technical writing. In addition, as Kinneavy observes, there is room for more detailed analyses than scholars have so far offered of several aspects of referential writing. And those analyses as well would be useful in teaching technical writing—for example, comparative studies of the characteristic grammars of exploratory and scientific writing. I have referred throughout to “Kinneavy’s theory,” but its generalization from the work of a large number of scholars in a wide range of discourse-related fields makes it much more than the theory of one man. That fact, along with the comprehensiveness and order that Professor Kinneavy has managed to achieve, accounts for the great usefulness of the work. Other discourse and linguistic theory also holds promise for teaching technical writing. The field deserves serious scholarship.